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Recently fixed carbon fuels microbial activity several meters below the soil surface

Andrea Scheibe et al.

Correspondence to: Marie Spohn (marie.spohn@slu.se)

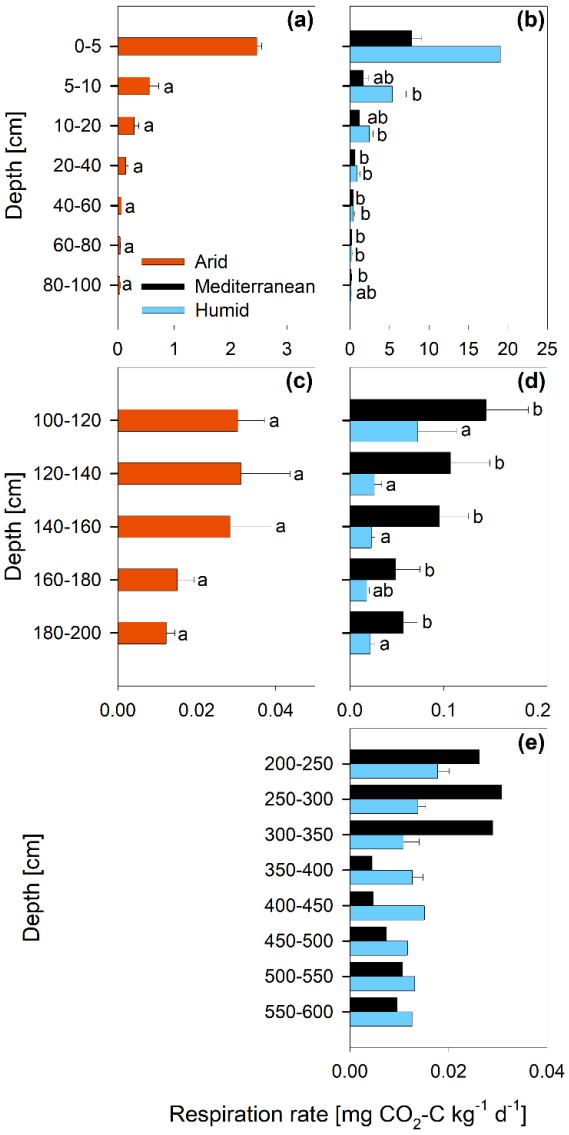

Figure S1: Soil respiration rate (mean ± standard error) of soil depth increments down to **(a, b)** 100 cm, **(c, d)** 200 cm, and **(e)** 600 cm depth at three sites (arid, mediterranean, humid) located along a precipitation gradient in the Coastal Cordillera of Chile (0-200 cm: n = 3, except for humid site with n = 4; > 200 cm: n = 1, except for humid site 200-400 cm with n = 2). Different letters indicate significant differences ($p \leq 0.05$) among the sites tested by Tukey's posthoc test after Two-Way ANOVA.

Table S1: Percentage (% (w/w)) of soil fine fraction (<2 mm; mean ± standard error) in soils at three sites (arid, mediterranean, humid) located along a precipitation gradient in the Coastal Cordillera of Chile (0–200 cm: n = 3, except for humid site with n = 4; 200–600 cm: n = 1, except for humid site 200–400 cm with n = 2).

Depth [cm]	Fine fraction (< 2 mm) [%]		
	Arid	Mediterranean	Humid
0 - 5	87.2 ± 3.0	97.8 ± 1.5	92.7 ± 2.2
5 - 10	87.3 ± 2.0	98.4 ± 1.1	91.4 ± 1.9
10 - 20	83.5 ± 2.0	98.7 ± 1.1	91.1 ± 1.6
20 - 40	68.9 ± 9.5	99.3 ± 0.4	83.3 ± 10.0
40 - 60	59.7 ± 8.2	99.7 ± 0.03	87.0 ± 2.8
60 - 80	59.3 ± 6.7	99.6 ± 0.1	88.8 ± 3.9
80 - 100	59.2 ± 8.1	99.4 ± 0.1	78.3 ± 4.2
100 - 120	61.8 ± 5.8	98.6 ± 0.4	73.7 ± 10.8
120 - 140	54.1 ± 1.9	98.2 ± 0.7	77.3 ± 8.2
140 - 160	53.6 ± 4.8	97.6 ± 0.7	84.9 ± 2.7
160 - 180	50.7 ± 2.9	96.6 ± 1.2	88.7 ± 3.2
180 - 200	46.7 ± 0.8	96.1 ± 1.4	86.6 ± 1.9
200 - 250		95.6	86.8 ± 2.5
250 - 300		94.4	82.3 ± 0.9
300 - 350		93.0	81.0 ± 2.6
350 - 400		93.7	80.6 ± 3.3
400 - 450		95.2	72.3
450 - 500		96.0	77.2
500 - 550		94.5	77.7
550 - 600		96.2	71.9

Table S2: Results of the Two-Way ANOVAs including sum of squares (Sum Sq), degree of freedom (DF), and F and p values.

Variable		Sum Sq	DF	F value	P value
Soil TOC	Intercept	410982	1	2100.0359	< 0.001
	Site	50088	2	127.9698	< 0.001
	Depth	86303	11	40.0902	< 0.001
	Site:Depth	3114	22	0.7232	0.80
	Residuals	17418	89		
Soil TOC $\delta^{13}C$	Intercept	544950	1	1396.6436	< 0.001
	Site	39002	2	49.9794	< 0.001
	Depth	29719	11	6.9241	< 0.001
	Site:Depth	48714	22	5.6749	< 0.001
	Residuals	34727	89		
Soil TOC-$\Delta^{14}C$	Intercept	209171	1	2846.676	< 0.001
	Site	8741	2	59.479	< 0.001
	Depth	31952	5	86.969	< 0.001
	Site:Depth	577	10	0.785	0.64
	Residuals	5290	72		
Respired CO_2-$\Delta^{14}C$	Intercept	417316	1	1023.9825	< 0.001
	Site	11564	2	14.1870	< 0.001
	Depth	79642	11	17.7655	< 0.001
	Site:Depth	9847	22	1.0983	0.37
	Residuals	33011	81		
Respiration rate	Intercept	413004	1	3052.6478	< 0.001
	Site	12543	2	46.3537	< 0.001
	Depth	103584	11	69.6020	< 0.001
	Site:Depth	6592	22	2.2148	< 0.01
	Residuals	11229	83		
Total DNA	Intercept	401227	1	4472.2792	< 0.001
	Site	69067	2	384.9268	< 0.001
	Depth	55835	11	56.5785	< 0.001
	Site:Depth	6383	22	3.2339	< 0.001
	Residuals	7536	84		
Root $\delta^{13}C$	Intercept	295035	1	566.5786	< 0.001
	Site	47254	2	45.3728	< 0.001
	Depth	2883	8	0.6920	0.70
	Site:Depth	3920	16	0.4705	0.95
	Residuals	41138	79		